Remarks

The Applicant submits this Amendment with a Request for Continued Examination and an Information Disclosure Statement citing a Japanese reference that have not been considered in this application. The Applicant respectfully requests the Examiner to review the reference cited in the Information Disclosure Statement and return an initialed copy of the statement with the next action. This reference was cited in a Japanese Office Action in a Japanese patent application claiming priority to the Stuckey reference (US 2003/0040886) cited in the current Office Action.

Starting on page 12, the current Office Action objects to Claims 21-22, 1-14, 15-17, 23-24, 12-14, and 11. The Applicant notes that claim 18 was not included in these objections. The Applicant has obviated the need to clarify the status of claim 18 by cancelling claims 15-18 and 23-24. The Applicant respectfully submits the claims amendments made above obviate the remaining claim objections. Independent claims 1 and 21 have been to recite methods of designing a tire tread having a tire noise pitch sequence for a pneumatic tire. Each claim has been amended to include the step of arranging the tread lugs on a tire tread of a pneumatic tire to match the tire noise pitch sequence. The Applicant submits the claims recite valid methods under section 101.

The Applicant has amended claims 11, 12, 13, and 14 to correct the antecedent basis issues raised by the Examiner. The Applicant submits the language of these claims has the proper literal antecedent basis.

The Final Office Action rejects independent claim 1 as being obvious in view of the combination of Sekula 4,442,499 and Kogure 5,383,506. The Applicant respectfully traverses the rejection of this independent claim and the dependent claims but has amended claim 1 to more clearly differentiate the claimed invention from the combined teachings of the cited references.

Claim 1 has been amended to require the amplitudes and phases of the selected modulation orders to be non-randomly selected. The invention designed the tire tread from the desired modulation characteristics so that a tread having undesired modulation characteristics is avoided. FIGS 1A-1C of the present application show that a tread having undesirable modulation characteristics can have a desirable frequency distribution. The Applicant submits the Sekula reference discloses and suggests such a desirable frequency distribution is to be used as the starting point for the design. The Applicant thus submits Sekula will, from time to time, create results with poor modulation characteristics as shown in FIGS. 1A-1C. The Applicant has thus amended independent claim 1 to require the amplitudes and phases to be non-randomly selected as well as requiring the first and second modulation orders to be smaller than or equal to the amplitude of the third modulation order.

The Final Office Action contends that Sekula "selects" the amplitudes and phases as required by claim 1. The Applicant respectfully disagrees because the Sekula amplitudes and phase are randomly provided by the white noise generator. The use of such a white noise pattern may result in a tread pattern having undesirable modulation characteristics as described above. The

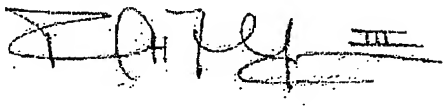
Applicant has thus amended claim 1 to require the amplitudes and phases to be non-randomly selected. Sekula does not disclose the non-random selection of amplitudes and phases for selected modulation orders.

The Applicant submits that the combination of any teachings of Kogure or Stuckey with the Sekula reference does not change the random white noise starting point of the Sekula reference. The combination of the Kogure and Sekula teachings identified in the Final Office Action would provide one of ordinary skill in the art a manner of evaluating the Sekula results but would not show how to modify Sekula to avoid the undesirable results. The claimed invention avoids undesirable results by non-randomly selecting the amplitudes and phases. The Applicant thus submits the invention of claim 1 and its dependent claims is patentable over the cited art.

As noted above, claim 15-28 and 23-24 have been cancelled. The Applicant has amended claim 21 and submits it and its dependent claims recited patentable subject matter and are condition for allowance.

In view of the foregoing, the Applicant respectfully requests consideration of the claims and most earnestly solicits the issuance of a formal Notice of Allowance for the claims.

Please call the undersigned attorney if any issues remain after this amendment.



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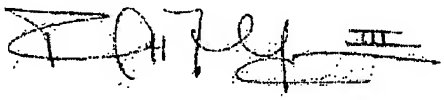

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